In the Claims

1. (currently amended) Device for non-contact transmission of electrical signals ~~and/~~or energy between at least two parts mobile relative to each other, ~~wherein~~ comprising a plurality of defined electromagnetic coupler elements ~~is~~ provided on the at least two parts between which signals ~~and/~~or energy is to be communicated, with ~~the~~ a near field of ~~these~~ coupler elements causing the non-contact transmission;~~,~~ wherein ~~characterised in that~~ each ~~of said~~ coupler element~~s, which are~~ provided on at least one part~~,~~ comprises at least one resonator ~~consisting of~~ including a single element which is able to resonate per se and independently of the other coupler elements, and which has a resonance frequency approximately equal to the frequency of the signals or energy to be transmitted, and
~~, that~~ the individual resonators are connected to each other via a line which is terminated in a manner free from reflection.

2. (currently amended) Device according to Claim 1, ~~characterised in that~~ wherein said at least one resonator ~~or resonators is/are~~ is a resonating cavity ~~cavities~~, a line resonator~~s~~, a dielectric, a ferromagnetic ~~and/~~or a piezoelectric resonator~~s~~.

3. (currently amended) Device for non-contact transmission of electrical signals ~~and/~~or energy between at least two parts mobile relative to each other, ~~wherein~~ comprising a plurality of defined electromagnetic coupler elements ~~is~~ provided on the at least two parts between which signals ~~and/~~or energy is to be communicated, with ~~the~~ a near field of ~~these~~ coupler elements causing the non-contact transmission;~~,~~ wherein ~~characterised in that~~ said coupler elements on at least one part - form a conductor structure configured as a cascade circuit which is terminated in a manner free from reflection;~~,~~ and

~~- that~~ each coupler element, independently of ~~the~~ other coupler elements, is a ~~resonance system~~ resonator having a resonance frequency higher than a ~~the~~ highest frequency of ~~the~~ wide-band signals to be transmitted.

4. (currently amended) Device according to Claim 3, wherein ~~characterised in that the~~ a system formed by said coupler elements ~~presents~~ has a low-pass characteristic.

5. (currently amended) Device according to claim 3 wherein ~~characterised in that~~ said conductor structure in its entirety is not capable of resonating.

6. (currently amended) Device according to claim ~~1~~ 3, wherein ~~characterised in that~~ each coupler element able to resonate ~~consists of~~ comprises an element including at least one component producing an inductive and capacitive effect, and a following ~~that the joining~~ coupler element taps a ~~the~~ voltage or a ~~the~~ current~~, respectively, on~~ from at least one reactive ~~dummy~~ element of a ~~the~~ preceding coupler element as an input signal.

7. (currently amended) Device according to Claim 6, wherein ~~characterised in that~~ each coupler element is composed of at least one~~, preferably a single, inductor~~ inductance and at least one capacitor.

8. (currently amended) Device according to Claim 7, wherein ~~characterised in that the~~ individual inductances ~~inductors~~ of ~~the~~ various coupler elements of one part are connected in series.

9. (currently amended) Device according to Claim ~~1~~ 8, wherein ~~characterised in that~~ a continuous conductor line forms the individual inductances ~~inductors~~ of the ~~respective~~ coupler elements.

10. (currently amended) Device according to Claim 9, wherein ~~characterised in that~~ the capacitors are configured as flat conducting elements which are connected to said continuous conductor line via branch lines or ~~are~~ directly joined to the conductor line laterally.

11. (currently amended) Device according to Claim 10, wherein ~~characterised in that~~ flat conducting elements are provided on either side of said continuous conductor line.

12. (currently amended) Device according to Claim ~~1~~ 6, wherein ~~characterised in that~~ said components producing an inductive and capacitive effect ~~inductors or capacitors~~ are configured as structures of a printed circuit board.

13. (currently amended) Device according to Claim 12, wherein ~~characterised in that~~ said printed circuit board is a flexible board.

14. (currently amended) Device according to Claim 13, wherein ~~characterised in that~~ said printed circuit board is provided with slots.

15. (currently amended) Device according to Claim ~~1~~ 6, wherein ~~characterised in that~~ said components producing an inductive and capacitive effect ~~inductors and/or capacitors~~ are discrete elements.

16. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ ~~several~~ a plurality of coupler elements tuned to different frequency ranges are disposed to be spatially close to each other ~~in a close three-dimensional relationship such that~~ to provide a coupler structure ~~is achieved~~ which is tuned to these frequency ranges.

17. (currently amended) Device according to Claim 16, wherein ~~characterised in that~~ said coupler structure is symmetrical.

18. (currently amended) Device according to Claim 12, wherein ~~characterised in that~~ conductor structures with a grounded surface, capacitors and/or inductors are provided on either side of a printed circuit board.

19. (withdrawn) Device according to Claim 1, characterized in that said coupler elements are configured as differential coupler elements and that a differential signal is applied to said coupler elements.

20. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ coupler elements provided on all parts are able to resonate and are matched with each other ~~are provided on all parts~~.

21. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ coupler elements on one part are able to resonate ~~are provided on one part~~, and ~~that~~ coupler elements on other parts are conventional coupler elements ~~transmitters or receivers are provided as coupler elements on the other parts~~.

22. (currently amended) Device according to Claim 21, wherein ~~characterised in that~~ the conventional coupler elements are selected from the group consisting of ~~said transmitters or receivers, respectively, comprise~~ coils, ferrite cores, ~~and/or~~ capacitors and antennas.

23. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ ~~the~~ line systems serving to supply ~~signals or the energy to be transmitted for supply or the line systems, respectively, which serve to~~ or pass on ~~the~~ transmitted signals or ~~the~~ energy are shielded ~~and thus designs de-coupled~~ from said coupler elements.

24. (withdrawn) Device according to Claim ,1 characterized in that at least one activator unit is provided which activates the respective coupler element only when the coupler elements of a relatively moved part are approaching.

25. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ said coupler elements are ~~so~~ designed to have ~~that they adjust themselves in terms of their~~ electrical characteristics which are adjusted to an ~~to their~~ operating point only by ~~the~~ dielectric or magnetic characteristics of an approaching coupler element.

26. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ the coupling of said coupler elements to ~~said~~ a line system serving to supply transmitted signal or energy is performed by ~~additional~~ active or passive devices such as amplifiers ~~and/~~or semiconductor switches.

27. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ said coupler elements are shielded from the environment by a shield made of an electrically conductive material.

28. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ signals or energy are supplied to said coupler elements ~~are supplied~~ by a switching or amplifying element.

29. (currently amended) Device according to Claim 28, wherein ~~characterised in that an additional signalling~~ a signaling means is provided which generates a regenerative coupling signal for said switching or amplifying element~~, on the basis of~~ from voltages and currents of the resonators ~~resonant elements~~, such that an oscillation will occur on at least one resonance frequency.

30. (withdrawn) Device according to Claim 29, characterized in that said signalling means is so configured that it couples out one magnitude proportional to one part of a series resonance current.

31. (withdrawn) Device according to Claim 29, characterized in that said signalling means is so designed that it couples out one magnitude proportional to one part of a parallel resonance voltage.

32. (withdrawn) Device according to Claim 29, characterized in that in the case of several resonances said signalling means is so designed that it couples out a combined signal consisting of a magnitude proportional to a series resonance current and proportional to a parallel resonance voltage.

33. (withdrawn) Device according to Claim 1, characterized in that an additional secondary oscillator is provided to facilitate the commencement of the oscillation of the circuit.

34. (withdrawn) Device according to of the Claim 1, characterized in that an analyser means is provided which determines the operating frequency of the system and derives therefrom a signal in correspondence with the size of the spacing of said units adapted to be moved relative to each other.

35. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ said parts mobile ~~adapted to be moved~~ relative to each other perform a rotational ~~rotating~~ movement.

36. (currently amended) Device according to Claim ~~1~~ 3, wherein ~~characterised in that~~ said parts mobile ~~adapted to be moved~~ relative to each other perform a translational movement.

37. (new) An apparatus for non-contact transmission of electrical energy between a movable part and a stationary part comprising:

at least two coupler elements provided on one of the two parts;

each coupler element having a resonator;

a line coupling each of said resonators to each other, said line being terminated such that signal reflections are substantially eliminated;

wherein each resonator comprises a single element which resonates independent of the other resonators at a resonant frequency that is approximately equal to a frequency of the transmitted electrical energy.

38. (new) The apparatus according to claim 37 further comprising a electrical energy source wherein at least one of the two parts comprises a conductor structure having a symmetrical configuration with a first and a second line coupled to the electrical energy source.

39. (new) The apparatus according to claim 38 wherein the first and second lines supply electrical energy to at least a first coupler element and to at least a second coupler element, the electrical energy comprising differential signals.

40. (new) The apparatus according to claim 37 further comprising:

a second coupler element positioned on the part opposed to the part said at least two coupler elements are positioned on;

an activator unit provided with said second coupler element, said activator unit activating one of the at least two coupler elements when the second coupler element moves into proximity with one of the at least two coupler elements.

41. (new) An apparatus for non-contact transmission of electrical energy between a first movable part and a second stationary part comprising:

at least two electromagnetic coupler elements provided on one of the two parts;

each coupler element having a resonator;

said at least two electromagnetic coupler elements forming a conductor structure comprising a cascade circuit, which is terminated such that signal reflections are substantially eliminated;

wherein each resonator comprises a single element which resonates independent of the other resonators at a resonant frequency that is higher than a highest frequency of the transmitted electrical energy.

42. (new) The apparatus according to claim 41 further comprising a electrical energy source wherein at least one of the two parts comprises a conductor structure having a symmetrical configuration with a first and a second line coupled to the electrical energy source.

43. (new) The apparatus according to claim 42 wherein the first and second lines supply electrical energy to at least a first coupler element and to at least a second coupler element, the electrical energy comprising differential signals.

44. (new) The apparatus according to claim 41 further comprising:

a second coupler element positioned on the part opposed to the part said at least two coupler elements are positioned on;

an activator unit provided with said second coupler element, said activator unit activating one of the at least two coupler elements when the second coupler element moves into proximity with one of the at least two coupler elements.